

## **Risk factors for spontaneous preterm labour with intact membrane: a case control study of Malay ethnic group in Hospital Serdang, Malaysia**

### **ABSTRACT**

**Objective:** Perinatal morbidity and mortality were well-associated with preterm births. Spontaneous preterm births as a single entity or preterm births in general were commonly used in identification of risk factors. These factors, however, are lacking due to absence of subtype-specific aetiologies. In this investigation, risk factors linked with spontaneous preterm births with intact membrane were investigated.

**Methods:** This case-control study using secondary data was conducted at the Department of Obstetrics and Gynaecology, Hospital Serdang, Malaysia over the course of three years. A total of 1,559 Malay pregnant women were involved. It consisted of subjects with spontaneous preterm labours with intact membrane, and the controls consisted of matched pregnant women with term delivery. Information in terms of socio-demographic factors, history of prior pregnancies, maternal health during pregnancy, foetal characteristics, and biophysical profile were taken from the patients' medical records and collected using a set data collection sheet. Any associations with spontaneous preterm labour with intact membrane were determined and analysed by employing both chi square bivariate and multivariable logistic regression via SPSS software.

**Results:** Incidence rate of spontaneous preterm labour with intact membrane peaked during the late preterm stage of gestation. Risk factors, in order of decreasing odds ratios (OR), preeclampsia (OR=31.92, 95% confidence interval (CI):12.57-81.09), placenta previa (OR=11.14, 95% CI: 5.19-23.92), history of preterm delivery (OR=5.43, 95% CI: 3.15-9.36), young mother (OR=5.14, 95% CI:2.68-9.848), unmarried mother (OR=3.81, 95% CI:1.78-8.13), systemic infection (OR=4.04, 95% CI:1.96-8.30), urinary tract infection (OR=3.21, 95% CI:1.73-5.93), absence of antenatal follow-up (OR=2.62, 95% CI:1.14-5.99), grand multiparity (OR=2.59, 95% CI:1.01-6.86), hypertension (OR=2.40, 95% CI:1.36-4.26), pregnancy induced hypertension (OR=2.28, 95% CI:1.17-4.46), oligohydramnios (OR=1.94, 95% CI:1.14-3.29), vaginal tract infection (OR=1.76, 95% CI:1.17-2.65) and poor/low socioeconomic status (OR=1.31, 95% CI:1.02-1.67). This was suggested by the final multivariable model.

**Conclusion:** Variables identified as risk factors for spontaneous preterm labour with intact membrane are family income, no utilization of prenatal care, marital status, maternal age, history of prematurity, preeclampsia, placenta previa, infection (systemic, urinary tract and

vaginal tract), hypertension, pregnancy induced hypertension, grand multiparity, and oligohydramnios. Therefore, women with these risk factors require more attention through careful antenatal care.

**Keywords:** Preterm labour; Risk factor; Case-control study; Pregnancy complications; Malaysia